SEQUENCE LISTING

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<120> NUCLEIC ACIDS OF THE M ANTIGEN GENE OF
      HISTOPLASMA CAPSULATUM, ANTIGENS, VACCINES AND ANTIBODIES,
      METHODS AND KITS FOR DETECTING HISTOPLASMOSIS

<130> 14114.0325U2

<140> 09/674,195
<141> 2000-10-26

<150> PCT/US99/09151
<151> 1999-04-27

<150> 60/083,676
<151> 1998-04-30

<160> 20

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 3862
<212> DNA
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<222> 3258
<223> n = g, a, c or t(u)

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2

<210> 2
<211> 707
<212> PRT
<213> Histoplasma capsulatum

<400> 2
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Ser Asp Pro Thr Asp Gln Phe Leu Ser Lys Phe Tyr Ile Asp Asp Glu
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Gln Ser Val Leu Thr Thr Asp Val Gly Gly Pro Ile Glu Asp Gln His
        35                  40                  45
Ser Leu Lys Ala Gly Asn Arg Gly Pro Thr Leu Leu Glu Asp Phe Ile
    50                  55                  60
Phe Arg Gln Lys Ile Gln His Phe Asp His Glu Arg Val Pro Glu Arg
65                  70                  75                  80
Ala Val His Ala Arg Gly Ala Gly Ala His Gly Val Phe Thr Ser Tyr
            85                  90                  95
Asn Asn Trp Ser Asn Ile Thr Ala Ala Ser Phe Leu Asn Ala Ala Gly
            100                 105                 110
Lys Gln Thr Pro Val Phe Val Arg Phe Ser Thr Val Ala Gly Ser Arg
        115                 120                 125
Gly Ser Val Asp Ser Ala Arg Asp Ile His Gly Phe Ala Thr Arg Leu
    130                 135                 140
Tyr Thr Asp Glu Gly Asn Phe Asp Ile Val Gly Asn Asn Val Pro Val
145                 150                 155                 160
Phe Phe Ile Gln Asp Ala Ile Gln Phe Pro Asp Leu Ile His Ala Val
            165                 170                 175
Lys Pro Gln Pro Asp Ser Glu Ile Pro Gln Ala Ala Thr Ala His Asp
            180                 185                 190
Thr Ala Trp Asp Phe Leu Ser Gln Gln Pro Ser Ser Leu His Ala Leu
        195                 200                 205
Phe Trp Ala Met Ser Gly His Gly Ile Pro Arg Ser Met Arg His Val
    210                 215                 220
Asp Gly Trp Gly Val His Thr Phe Arg Leu Val Thr Asp Glu Gly Asn
225         .       230                 235                 240
Ser Thr Leu Val Lys Phe Arg Trp Lys Thr Leu Gln Gly Arg Ala Gly
            245                 250                 255
Leu Val Trp Glu Glu Ala Gln Ala Leu Gly Gly Lys Asn Pro Asp Phe
            260                 265                 270
His Arg Gln Asp Leu Trp Asp Ala Ile Glu Ser Gly Arg Tyr Pro Glu
        275                 280                 285
Trp Glu Leu Gly Phe Gln Leu Val Asn Glu Ala Asp Gln Ser Lys Phe
    290                 295                 300
Asp Phe Asp Leu Leu Asp Pro Thr Lys Ile Ile Pro Glu Glu Leu Val
305                 310                 315                 320
Pro Phe Thr Pro Ile Gly Lys Met Val Leu Asn Arg Asn Pro Lys Ser
            325                 330                 335
Tyr Phe Ala Glu Thr Glu Gln Ile Met Phe Gln Pro Gly His Val Val
            340                 345                 350
Arg Gly Ile Asp Phe Thr Asp Asp Pro Leu Leu Gln Gly Arg Leu Tyr
            355                 360                 365
```

```
Ser Tyr Leu Asp Thr Gln Leu Asn Arg His Gly Gly Pro Asn Phe Glu
    370             375             380
Gln Leu Pro Ile Asn Arg Pro Arg Ile Pro Phe His Asn Asn Asn Arg
385             390             395             400
Asp Gly Ala Gly Gln Met Phe Ile Pro Leu Asn Thr Ala Ala Tyr Thr
            405             410             415
Pro Asn Ser Met Ser Asn Gly Phe Pro Gln Gln Ala Asn Arg Thr His
            420             425             430
Asn Arg Gly Phe Phe Thr Ala Pro Gly Arg Met Val Asn Gly Pro Leu
        435             440             445
Val Arg Glu Leu Ser Pro Ser Phe Asn Asp Val Trp Ser Gln Pro Arg
    450             455             460
Leu Phe Tyr Asn Ser Leu Thr Val Phe Glu Lys Gln Phe Leu Val Asn
465             470             475             480
Ala Met Arg Phe Glu Asn Ser His Val Arg Ser Glu Thr Val Arg Lys
            485             490             495
Asn Val Ile Ile Gln Leu Asn Arg Val Asp Asn Asp Leu Ala Arg Arg
        500             505             510
Val Ala Leu Ala Ile Gly Val Glu Pro Pro Ser Pro Asp Pro Thr Phe
    515             520             525
Tyr His Asn Lys Ala Thr Val Pro Ile Gly Thr Phe Gly Thr Asn Leu
    530             535             540
Leu Arg Leu Asp Gly Leu Lys Ile Ala Leu Leu Thr Arg Asp Asp Gly
545             550             555             560
Ser Phe Thr Ile Ala Glu Gln Leu Arg Ala Ala Phe Asn Ser Ala Asn
            565             570             575
Asn Lys Val Asp Ile Val Leu Val Gly Ser Ser Leu Asp Pro Gln Arg
        580             585             590
Gly Val Asn Met Thr Tyr Ser Gly Ala Asp Gly Ser Ile Phe Asp Ala
        595             600             605
Val Ile Val Val Gly Gly Leu Leu Thr Ser Ala Ser Thr Gln Tyr Pro
    610             615             620
Arg Gly Arg Pro Leu Arg Ile Ile Thr Asp Ala Tyr Ala Tyr Gly Lys
625             630             635             640
Pro Val Gly Ala Val Gly Asp Gly Ser Asn Glu Ala Leu Arg Asp Val
            645             650             655
Leu Met Ala Ala Gly Gly Asp Ala Ser Asn Gly Leu Asp Gln Pro Gly
            660             665             670
Val Tyr Ile Ser Asn Asp Val Ser Glu Ala Tyr Val Arg Ser Val Leu
        675             680             685
Asp Gly Leu Thr Ala Tyr Arg Phe Leu Asn Arg Phe Pro Leu Asp Arg
    690             695             700
Ser Leu Val
705
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4

<210> 3
<211> 8
<212> PRT
<213> Histoplasma capsulatum

<400> 3
Ser Asp Pro Thr Asp Gln Phe Leu
 1   5

<210> 4
<211> 15
<212> PRT
<213> Histoplasma capsulatum

<400> 4
Asp Phe Ile Phe Arg Gln Lys Ile Gln His Phe Asp His Glu Arg
 1   5   10   15

<210> 5
<211> 9
<212> PRT
<213> Histoplasma capsulatum

<400> 5
Thr Leu Gln Gly Arg Ala Gly Leu Val
 1   5

<210> 6
<211> 16
<212> PRT
<213> Histoplasma capsulatum

<400> 6
Ala Gln Ala Leu Gly Gly Lys Asn Pro Asp Phe His Arg Gln Asp Leu
 1   5   10   15

<210> 7
<211> 6
<212> PRT
<213> Histoplasma capsulatum

<400> 7
Ser Gly Arg Tyr Pro Glu
 1   5

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<210> 8
<211> 10
<212> PRT
<213> Histoplasma capsulatum

<400> 8
Phe Asp Phe Asp Leu Leu Asp Pro Thr Lys
 1               5               10

<210> 9
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; M antigen-specific oligonucleotide

<400> 9
Ile Ile Pro Glu Glu Leu Val Pro Phe Thr Pro Ile Gly Lys
 1               5               10

<210> 10
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; sense amplification primer

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<221> misc_feature
<222> 3
<223> r = a or g

<220>
<221> misc_feature
<222> 6, 12, 15
<223> y = c or t

<220>
<221> misc_feature
<222> 9
<223> v = g, c or a

<400> 10
aaraayccvg aytty                                              15
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<210> 11
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; anti-sense amplification primer

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<222> 3, 9
<223> n = g, a, c or t(u)

<220>
<221> misc_feature
<222> 6
<223> d = g, a or t(u)

<220>
<221> misc_feature
<222> 12
<223> r = a or g

<400> 11
ttnccdatng traa                                                14


<210> 12
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; sense cDNA amplification primer

<400> 12
cggaatcctc cgaccctacg ga                                       22


<210> 13
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; anti-sense cDNA amplification primer

<400> 13
accaagcttc tatccaacgg gaaccga                                  27
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7

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<210> 14
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence/Note =
      Synthetic Construct

<220>
<221> misc_feature
<222> 1
<223> d = g, a or t(u)

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dcgaagtcga ggctttcagc atg                                          23


<210> 15
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<220>
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<220>
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<222> 1
<223> d = g, a or t(u)

<400> 15
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<210> 16
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<212> DNA
<213> Artificial Sequence

<220>
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      Synthetic Construct

<220>
<221> misc_feature
<222> 1
<223> d = g, a or t(u)

<400> 16
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<210> 17
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence/Note =
      Synthetic Construct

<220>
<221> misc_feature
<222> 1
<223> d = g, a or t(u)

<400> 17
dcgaagtcga ggctttcagc atg                                              23


<210> 18
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence/Note =
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<400> 18
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<210> 19
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<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence/Note =
      Synthetic Construct

<220>
<221> misc_feature
<222> 1
<223> r = a or g

<400> 19
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9

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<210> 20
<211> 23
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence/Note =
      Synthetic Construct

<220>
<221> misc_feature
<222> 1
<223> r = a or g

<400> 20
rcgaagucga ggcuuucagc aug                                        23
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